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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/763,395

01/26/2004

Woong Kwon

277/030

4580

27849

7590

01/17/2007

LEE & MORSE, P.C.

3141 FAIRVIEW PARK DRIVE

SUITE 500

FALLS CHURCH, VA 22042

EXAMINER

BEHNCKE, CHRISTINE M

ART UNIT

PAPER NUMBER

3661

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

01/17/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/763,395

Applicant(s)

KWON ET AL.

Examiner

Christine M. Behncke

Art Unit

3661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-10 and 12 is/are rejected.
- 7) ☒ Claim(s) 5 and 11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 4/20/05, 3/1/05, 1/26/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☒ Other: JP 2001-138272.

DETAILED ACTION

1. This office action is in response to the application filed 26 January 2004, in which claims 1-12 were presented for examination.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 2, 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jinichi, JP 2001-138272, in view of Hattori et al., US 2003/0009259.

(Claims 1 and 7) Jinichi discloses an ambulatory robot and method including a lower body having two or more legs and an upper body part installed on an upper end of

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the lower body part and capable of performing positional displacement by moving the lower body part (Figures 6 and 7), the ambulatory robot comprising: rotating means installed on a bottom surface of each of the two or more legs (Figure 4); and control means for controlling a motion of the ambulatory robot using the lower and upper body parts ([0038]), wherein the control means controls a speed of revolution of the rotating means ([0040]), and controls the motion of the ambulatory robot so that the positional displacement of the ambulatory robot is performed by any of running, walking and sliding, depending on the controlled speed of revolution ([0073]-[0074]). Jinichi further discloses wherein the robot is able to walk up stairs, skid over floor surfaces, but does not disclose detecting the slope of a floor. However, Hattori et al. teaches control of a bipedal robot that includes slope-detection means for sensing a slope of a floor ([0043]) and control the speed of the robot motion based on the detected slope of the floor ([0047]). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Hattori et al. with the robot of Jinichi because, as Hattori et al. suggests, detecting the slope of the floor surface and including the detected measurement in the robot control allows for more accurate control of the robot posture and stabilization when moving on an incline ([0047]).

(**Claims 2 and 8**) Jinichi further discloses decelerating means for slowing the speed of revolution of the rotating means, wherein the control means controls the decelerating means thereby controlling the speed of revolution of the rotating means ([0034]-[0036]).

Claim Rejections - 35 USC § 103

3. Claims 1-4, 6-10 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jinichi in view of Morrell, US 6,553,271.

(**Claims 1 and 7**) Jinichi discloses an ambulatory robot and method including a lower body having two or more legs and an upper body part installed on an upper end of the lower body part and capable of performing positional displacement by moving the lower body part (Figures 6 and 7), the ambulatory robot comprising: rotating means installed on a bottom surface of each of the two or more legs (Figure 4); and control means for controlling a motion of the ambulatory robot using the lower and upper body parts ([0038]), wherein the control means controls a speed of revolution of the rotating means ([0040]), and controls the motion of the ambulatory robot so that the positional displacement of the ambulatory robot is performed by any of running, walking and sliding, depending on the controlled speed of revolution ([0073]-[0074]). Jinichi further discloses wherein the robot is able to walk up stairs, skid over floor surfaces, but does not disclose detecting the slope of a floor. However, Morrell teaches control of a transport device that controls the posture or stabilization of a wheeled device that includes slope-detection means for sensing a slope of a floor (Figures 2E and 7A) and control the speed of the robot motion based on the detected slope of the floor (column 28, line 28-column 29, line 15).

(**Claims 2 and 8**) Jinichi further discloses decelerating means for slowing the speed of revolution of the rotating means, wherein the control means controls the decelerating means thereby controlling the speed of revolution of the rotating means ([0034]-[0036]).

(**Claims 3 and 9**) Morrell further teaches wherein control means controls decelerations means (wheel controller 1202) so that the speed of revolution slows to zero when the slope of the floor sensed by the slope-detecting means is greater than a first preset angle (column 8, lines 40-58).

(**Claims 4 and 10**) Morrell further teaches wherein the control means controls the motion of the transport device so that the positional displacement of the transport device is performed by walking when the speed of revolution equals zero (Figures 4-5B, column 8, lines 40-58).

(**Claims 6 and 12**) Morrell further teaches wherein the rotating means comprises two or more wheels (column 4, line 66-column 5, line 32).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Morrell with the robot of Jinichi because, as Morrell suggests, detecting the slope of the floor surface and including the detected measurement in a mobile device allows for more accurate control of the device stabilization when moving on an incline to prevent the device from falling backward/forward and maneuvering stairs (column 28, line 28-column 29, line 15).

Allowable Subject Matter

4. **Claims 5 and 11** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion


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5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christine M. Behncke whose telephone number is (571) 272-8103. The examiner can normally be reached on Monday - Friday 8:30 AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas G. Black can be reached on (571) 272-6956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CMB


THOMAS BLACK
SUPERVISORY PATENT EXAMINER